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On-Farm Research Opportunity Looking at Cover Crops and Green Manures and Impact on SDS, IDC, White Mold and Fusarium Root Rot

Article | 3/1/2018 | By Angela Rieck-Hinz, Extension Field Agronomist, 515-231-2830, amrieck@iastate.edu

Researchers at ISU are looking for farmer cooperators interested in a specific field trial focused on the effects of cover crops and green manure amendments on soybean diseases (specifically SDS, IDC, white mold and Fusarium root rot).

For the 2018 season, we need some grower fields with a history of white mold where we can establish strips of ‘spring oats’ and ‘no oats.’ Ideally, the growers would have an idea of the areas of their fields where there is highest disease pressure, so we could plant the strips there. Strips would be about 100 feet long and replicated four times for a total of eight strips.

We would do the following operations on those fields:
1- Plant oat strips in mid-late March
2- Kill the oats ~ 2 weeks before planting soybean
3- Plant soybeans late April - early May
4- Visit the field 2-3 times in the season for disease ratings and taking plant samples
5- Harvest the strips

We would take care of all the field operations for the trial. For the 2019 season, we will want to include rye and fall oats as treatments, so we are also looking for fields where we can establish fall cover crops this fall, but we have more time to find fields for that effort. If you are interested, please contact me, and I will get you in touch with those running the project, 515-231-2830.

New Online Herbicide Resistance and Weed Management Course

Article | 3/1/2018 | By Angela Rieck-Hinz, Extension Field Agronomist, 515-231-2830, amrieck@iastate.edu

Got troublesome weeds? Wondering what YOU can do to better manage weeds and combat herbicide resistance? Dealing with herbicide resistance can be expensive. In fact, the United States Department of Agriculture estimates the cost of dealing with herbicide resistance once it occurs to be $20 to $60 per acre.

Plan ahead and check out the NEW online Herbicide Resistance and Weed Management course. This online, interactive and self-paced course contains narrated presentations, lesson activities and resources to provide farmers and agribusiness professionals the tools to develop long-term weed management plans to help delay the development of herbicide resistance.

The cost of the course is $50 and is available through the ISU Extension store here: https://store.extension.iastate.edu/product/15367. Those who complete the course are eligible for 3.0 integrated pest management Certified Crop Advisor continuing education credits. In order to receive CCA credits, the entire course must be completed.
ISU Research Farm Annual Meetings

Northeast Research Farm Annual Meeting and Program, Tuesday, March 6, 9:30 a.m.-noon, Borlaug Center, Nashua, featuring “Current Financial Situations for Agricultural Producers in Iowa” and “Critical Importance of Farm Succession Planning.” For more information, call 641-426-6801.

Northern Research Farm Annual Meeting and Program, Wednesday, March 7, 9 a.m.-2 p.m., Duncan Hall, 2337 Nation Ave., Britt, featuring topics on dicamba, SCN, climate change impacts on crops and soybean row spacing and the soybean yield benchmarking project. RSVP to 641-923-2856. Meetings are free and open to the public.

Watershed Scale, Not Field Scale

By Mark Licht, ISU Extension Cropping Systems Specialist, 515-294-0877, lichtma@iastate.edu

If we hope to significantly improve water quality in Iowa and still have farm profitably, we are going to need to change our mindset about our agricultural systems. We are going to need to start thinking in terms of watersheds.

Each spring I teach a graduate course for the Iowa State University Master of Science in Agronomy distance program called “Agronomic Systems Analysis.” The course is comprised of field-scale case studies that require students to consider how complex decisions must be made by taking into consideration agronomic, economic, environmental, and social implications of the decisions. This year, I incorporated a new lesson that goes beyond field scale, but encourages the students to address the issues at the watershed scale.

The point of this lesson is to have students think not about a single farm or field, but to think about where to target practices to be the most effective and which practices will draw the most reduction of nutrients being lost. This is not rocket science. It has been well established that sloping land is prone to erosion. These are the areas where no-tillage and cover crops are going to be the most effective at keeping soil and phosphorus in place. It’s well understood that well-drained soils with very little slope are prone to nitrate leaching. These are the areas where bioreactors, wetlands and cover crops will be most effective in reducing nitrate movement into flowing water.

There can be watershed and community benefits that extend beyond the fence. Many practices can support efforts to provide habitat for pollinators, monarchs, song birds, game birds, waterfowl and deer.

We cannot meet the Iowa Nutrient Reduction Strategy goals and improve habitat without changing our mindset about how we farm and the use of conservation. Conservation practices are most effective if they are targeted specifically in areas that will result in a continuous, complimentary system across the watershed. How can we help you think on a watershed scale? Read more at https://iowalearningfarms.wordpress.com/2018/02/13/watershed-scale-not-field-scale/.

Iowa Cover Crop Acres Grow, But Rate Declines in 2017


AMES, Iowa - According to the Iowa Learning Farms 2017 Field Day Evaluation Report, Iowa cover crop acres grew last year by approximately 22 percent to 760,000 total acres. While the positive growth during a time of shrinking profit margins is notable, the rate of growth is 10 percent less than the growth measured in 2016, and still well below the goal of 12.5 million acres of cover crops called for in Iowa’s Nutrient Reduction Strategy.

Many of the new acres were planted by experienced cover crop farmers. The majority (69 percent) of respondents to Iowa Learning Farms’ year-end evaluation questionnaire started seeding cover crops at least three years ago. Only 11 percent of respondents reported implementing cover crops for the first time on their land last year. Those respondents with cover crops reported an average of 46 percent of their total row crop acres in cover crops, 6 percent more than in 2016.

The overall percentage of farmers who are using cost share to seed cover crop acres has increased by 7 percent over four years of Iowa Learning Farms evaluation data. Of the respondents seeding cover crops in 2017, 65 percent of them did so with the assistance of cost share. Read more at https://www.iowalearningfarms.org/.
**Frogeye Leaf Spot Fungicide Resistance Confirmed in Iowa Soybean**

Important soybean pathogen found to be resistant to fungicide application

*Article | 02/19/2018 | By Daren Mueller, Department of Plant Pathology and Microbiology, 515-460-8000, dsmuelle@iastate.edu*

AMES, Iowa – Researchers in the Iowa State University and University of Kentucky Departments of Plant Pathology have confirmed that isolates of *Cercospora* sojina, the pathogen that causes frogeye leaf spot of soybean, found in Iowa have shown resistance to quinone outside inhibitor (QoI, strobilurin) fungicides.

Frogeye leaf spot occurs across the United States and significant yield loss can occur when this disease is widespread within a soybean field. Plant pathologists estimate this disease was responsible for more than 17.5 million bushels of lost yield in 2015 across the U.S., with a value of $158.1 million. One method of frogeye leaf spot management and subsequent yield protection has been the use of foliar fungicide during pod development. However, overuse or misuse of fungicides can result in decreased management efficacy if targeted pathogens acquire resistance to a fungicide.

Fungicides are very important for disease management, and it is critical to preserve the usefulness of these crop protection tools. Fields should be scouted approximately two weeks after fungicide application to determine if the fungicide is working. If you believe fungicide resistance may be an issue in your field, contact an Iowa State University Extension and Outreach field agronomist. For resources on fungicide resistance, visit the Take Action website (http://iwilltakeaction.com).

Funding for this research has been provided by the Soybean Checkoff through the Iowa Soybean Association and United Soybean Board. Additional Contact: Yuba Kandel, Soybean Pathology Research Scientist, Iowa State University, ykandel@iastate.edu. Read more at http://drupal-01.exnet.iastate.edu/article/frogeye-leaf-spot-fungicide-resistance-confirmed-iowa-soybean.

**Iowa State University Leads Harrison County Project to Combat Weeds Resistant to Herbicides**

*Contacts: Larry Buss, Harrison County Pilot Project, 712-269-2989, l-bbuss@windstream.net and Evan Sivesind, Iowa Pest Resistance Management Program, 515-294-7990, sivesind@iastate.edu*

AMES, Iowa — Harrison County is home to a new project focused on combating weed resistance as part of a statewide pest resistance management program led by Iowa State University. A team of local farmers, landowners, agronomists, crop advisers, bankers, seed and chemical company representatives, and Iowa State University Extension and Outreach specialists are addressing the increasing threat of herbicide resistant weeds, including Palmer amaranth.

Launched in 2017, the Iowa Pest Resistance Management Program is a statewide effort to slow the development of pest resistance using a collaborative approach to promote pest resistance management practices. The Harrison County team includes farmer cooperators who will help evaluate and demonstrate the cost-effectiveness of weed resistance management for 2018 and beyond.

Palmer amaranth was first discovered in Iowa in 2013 in Harrison County. It is of great concern to farmers due to its competitiveness, high growth rate, prolific seed production and demonstrated ability to evolve resistance to herbicides. Once established in a field, weed management costs may rise significantly. In addition to combating Palmer amaranth, the Harrison County team will focus on improving management of widespread herbicide-resistant weeds — waterhemp, giant ragweed and marestail.

The Harrison County effort is one of several pest resistance management projects around Iowa coordinated by Iowa State, which is working with many partners to develop and implement projects across the state with farmers and their agronomic and farm advisers and agricultural professionals to devise cost-effective resistance management practices to sustain yields.

Results will be shared through local field days, newspaper articles, handouts, social media and on protectiowacrops.org, which is part of Iowa State’s Integrated Pest Management website. Read more online at http://www.cals.iastate.edu/news/releases/iowa-state-university-leads-harrison-county-project-combat-weeds-resistant-herbicides.

**ISU Extension Store**

*(@ISUExtStore)*

Raising beef cattle presents a myriad of challenges. In addition to field specialists & faculty who are experts in their field, Extension and Outreach has resources in place to help producers meet these challenges and manage healthy and profitable herds: http://ow.ly/nD5X30i9mRi.
Better Kernel Fill May Create Wetter Corn in Storage

Producers should take precautions to mitigate corn spoilage

Article | 02/21/2018 | By Charles Hurburgh, Agricultural and Biosystems Engineering, 515-294-8629, tatry@iastate.edu

AMES, Iowa - Due to beneficial weather conditions that increased kernel fill last fall, producers need to take precautions to mitigate corn spoilage this spring. Mild weather during the months of September and October not only produced higher yields, but also increased kernel fill. Kernels that are “filled out” and denser like those seen during last year’s harvest usually do not dry as easily, especially in higher temporal systems. The kernels will dry on the surface, but when moisture equals out, they will be wetter than anticipated.

To prevent spoilage, producers should begin by taking grain samples from the core of the grain bin. Not only will this clean trash and flush foreign material, but also will help identify the moisture content.

“If we have a few consecutive 50-degree days, the top of bins will get warm and spoilage can happen. Producers also need to be prepared to turn fans on or return grain to the dryer if necessary,” said Hurburgh.

For additional information on proper grain storage practices, the Iowa Grain Quality Initiative has developed free online learning modules to help educate and teach producers proper grain storage techniques. Module topics include dryeration, aeration and fan performance. Visit https://www.extension.iastate.edu/grain for more information about the Iowa Grain Quality Initiative and modules.

The mission of the Iowa Grain Quality Initiative (IGQI) is to create knowledge and provide information that will improve the efficiency of traditional commodity grain markets and assist emerging markets for user-specific grains. For more information, visit iowagrain.org.